

## **WHAT IS CLAIMED IS:**

1. A method for calibrating a marking system of at least one or more printers to maintain color consistency with a reference printer comprising:
  - a) obtaining a printed reference on said reference printer, said printed reference having at least one test patch;
  - b) obtaining at least one reflectance value from said test patch in the printed reference; and
  - c) creating sensor reference values for each printer of said marking system by:
    - placing the printed reference in the input tray of each printer of said marking system;
    - transporting said printed reference through the paper path of each printer of said marking system; and
    - obtaining at least one reflectance value from the printed reference using the sensors of each printer of said marking system; and
  - d) calibrating the control system of each printer of said marking system using the obtained reflectance values.
2. A method for calibrating a marking system to maintain color consistency, as in **claim 1**, further comprising first disabling each printer's process mode such that no toner or oil is developed on the printed reference.
3. A method for calibrating a marking system to maintain color consistency, as in **claim 1**, where the obtained reflectance values are first converted into color values to be used as reference values.
4. A method for calibrating a marking system to maintain color consistency, as in **claim 1**, wherein the control system of each printer is a gray-balanced control system.

5. A method for calibrating a marking system to maintain color consistency, as in **claim 1**, wherein obtaining reflectance values comprises:

a) obtaining reflectance values from one or more first test patches each aligned in a first direction; and

b) obtaining reflectance values from one or more second test patches each aligned in a second direction that crosses said first direction.

6. A method for calibrating a marking system to maintain color consistency, as in **claim 5**, wherein said first direction is a direction of least non-uniformity and said second direction is a direction of greatest non-uniformity.

7. A method for calibrating a marking system to maintain color consistency, as in **claim 5**, said second test patches having at least one patch of CMY gray extending in said second direction.

8. A method for calibrating a marking system to maintain the color consistency thereof, as in **claim 7**, wherein at least one of said second test patches having at least one patch of K gray extending parallel to the at least one patch of CMY gray.

9. A method for calibrating a marking system to maintain color consistency, as in **claim 5**, wherein at least one of said second test patches extending the length of the marking path of that printer.

10. A method for calibrating a marking system to maintain color consistency, as in **claim 5**, further obtaining a set of gray balanced tone reproduction curves based on the reflectance values of said first test patches and the reflectance values of said second test patches with said set of gray balanced tone reproduction curves.

11. A method for calibrating a marking system to maintain color consistency, as in **claim 10**, wherein said set of spatial gray balanced tone reproduction curves incorporates a non-uniformity profile .

12. A method for calibrating a marking system to maintain color consistency, as in **claim 11**, wherein said non-uniformity profile is partially based on the reflectance values of said second test patches.

13. A method for calibrating a marking system to maintain color consistency, as in **claim 11**, wherein said non-uniformity profile is at least partially based on said gray balanced tone reproduction curves.

14. A method for calibrating a marking system to maintain color consistency, as in **claim 1**, wherein said set of spatial gray balanced tone reproduction curves comprises a pixel-wise spatial gray balanced tone reproduction curve.

15. A method for calibrating a marking system to maintain color consistency, as in **claim 1**, wherein said plurality of reflectance values comprises an iterative process which converges reflectance values toward at least one desired value.

16. A method for calibrating a marking system to maintain color consistency, as in **claim 15**, wherein each iteration uses revised successive test patterns.

17. A method for calibrating a marking system to maintain color consistency, as in **claim 16**, wherein each successive pattern includes a revised version of said test patches.

18. A method for calibrating a marking system to maintain color consistency, as in **claim 17**, wherein each successive test pattern is marked based on a test pattern file that has been updated.

19. A method for calibrating a marking system to maintain color consistency, as in **claim 18**, wherein said updating is based on information obtained by comparing the reflectance values with the desired values.

20. A method for calibrating a marking system to maintain color consistency, as in **claim 18**, wherein each successive test pattern is marked based on a revised spatial gray balanced tone reproduction curve.

21. A method for calibrating a marking system to maintain color consistency, as in **claim 20**, wherein each successive test pattern has been revised based on information obtained by comparing reflectance values with desired values.